MATHEMATICS SAMPLE #1

K-3 Mathematics Standards of Learning Achievement Record

Student Name:_____

School:_____ **School Year: Grade K:____   Grade 1:____ Grade 2:____   Grade 3:____**

Levels of Performance Scoring Rubric:

4. Exceeds the Standard (Student demonstrated knowledge and skills 94% or more of the time.)
3. Meets the Standard (Student demonstrated knowledge and skills 80% or more of the time.)
2. Partially Meets the Standard (Student demonstrated knowledge and skills 70% or more of the time.)
1. Inadequate or No Understanding of the Standard (Student demonstrated knowledge and skills less than 70% of the time.)

RECORD OF INTERVENTION / REMEDIATION SERVICES		
DATE	**EXPLANATION OF SERVICES AND RESULTS**	**DURATION**

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆**Number & Number Sense**		◆ **Number & Number Sense**		◆ **Number & Number Sense**		◆ **Number & Number Sense**	
Counting	**K.1** The student, given two sets containing 10 or fewer concrete items, will identify and describe one set as having more, fewer, or the same number of members as the other set, using the concept of one to one correspondence.		**1.1** The student will count objects in a given set containing between 1 and 100 objects and write the corresponding numeral.		**2.5** The student will (a) count forward by twos, fives, and tens to 100, starting at various multiples of 2, 5, or 10, using mental mathematics, paper and pencil, hundred chart, calculators, and/or concrete objects, as appropriate; (b) count backward by tens from 100; (c) group objects by threes and fours; and (d) recognize even and odd numbers, using objects.			
	K.2 The student, given a set containing 10 or fewer concrete items, will a) tell how many are in the set by counting the number of items orally; b) select the corresponding numeral from a given set; and c) write the numeral to tell how many are in the set.		**1.3** The student will count forward by ones, fives, and tens to 100, by twos to 20, and backward by ones from 20.					
	K.4 The student will investigate and recognize patterns from counting by fives and tens to 30, using concrete objects and a calculator.							
	K.5 The student will count forward to 30 and backward from 10.							

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆**Number & Number Sense**		◆ **Number & Number Sense**		◆ **Number & Number Sense**		◆ **Number & Number Sense**	
Place Value			**1.2** The student will group a collection of up to 100 objects into tens and ones and write the corresponding numeral to develop an understanding of place value.		**2.1** The student will a) read, write, and identify the place value of each digit in a three-digit numeral, using numeration models; and b) round two-digit numbers to the nearest ten.		**3.1** The student will read and write six-digit numerals and identify the place value for each digit.	
			1.4 The student will recognize and write numerals 0 through 100.				**3.2** The student will round a whole number, 9,999 or less, to the nearest ten, hundred, and thousand.	
Ordinality	**K.3** The student, given an ordered set of three objects and/or pictures, will indicate the ordinal position of each item, first through third, from left-to-right, right-to-left, top-to-bottom, and/or bottom-to-top.		**1.5** The student will identify the ordinal positions first through tenth, using an ordered set of objects.		**2.3** The student will identify the ordinal positions first through twentieth, using an ordered set of objects.			
Comparing Number					**2.2** The student will compare two whole numbers between 0 and 999, using symbols (>, <, or =) and words ("*greater than*," "*less than*," or "*equal to*").		**3.3** The student will compare two whole numbers between 0 and 9,999, using symbols (>, <, or =) and words ("*greater than*," "*less than*," or "*equal to*").	

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆Number & Number Sense		◆ Number & Number Sense		◆ Number & Number Sense		◆ Number & Number Sense	
Combine Fractions/ Decimal Concepts			**1.6** The student will identify and represent the concepts of one-half and one-fourth, using appropriate materials or a drawing.		**2.4** The student will identify the part of a set and/or region that represents fractions of one-half, one-third, one-fourth, one-eighth, and one-tenth and write the corresponding fraction.		**3.5** The student will a) divide regions and sets to represent a fraction; and b) name and write the fractions represented by a given model (area/region, length/measurement, and set). Fractions (including mixed numbers) will include halves, thirds, fourths, eighths, and tenths.	
							3.6 The student will compare the numerical value of two fractions having like and unlike denominators, using concrete or pictorial models involving areas/regions, lengths/measurements, and sets.	
							3.7 The student will read and write decimals expressed as tenths and hundredths, using concrete materials and models.	

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆Number & Number Sense		◆ Number & Number Sense		◆ Number & Number Sense		◆ Number & Number Sense	
Properties							**3.4** The student will recognize and use the inverse relationships between addition/ subtraction and multiplication/division to complete basic fact sentences. Students will use these relationships to solve problems such as 5 + 3 = 8 and 8 – 3 = ____.	

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆Computation & Estimation		◆ Computation & Estimation		◆ Computation & Estimation		◆ Computation & Estimation	
Addition & Subtraction	**K.6** The student will add and subtract whole numbers, using up to 10 concrete items.		**1.8** The student will recall basic addition facts – i.e., sums to 10 or less - and the corresponding subtraction facts.		**2.6** The student will recall basic addition facts – i.e., sums to 18 or less - and the corresponding subtraction facts.		**3.8** The student will solve problems involving the sum or difference of two whole numbers, each 9,999 or less, with or without regrouping, using various computational methods, including calculators, paper and pencil, mental computation, and estimation.	
			1.9 The student will create and solve story and picture problems involving one-step solutions, using basic addition and subtraction facts.		**2.7** The student, given two whole numbers whose sum is 99 or less, will a) estimate the sum; and b) find the sum, using various methods of calculation (mental computation, concrete materials, and paper and pencil).			
							3.11 The student will add and subtract with proper fractions having like denominators of 10 or less, using concrete materials and pictorial models representing areas/regions, lengths/measurements, and sets.	
					2.8 The student, given two whole numbers each of which is 99 or less, will a) estimate the difference; and b) find the difference, using various methods of calculation (mental computation, concrete materials, and paper and pencil).		**3.12** The student will add and subtract with decimals expressed as tenths, using concrete materials, pictorial representations, and paper and pencil.	
					2.9 The student will create and solve one-step addition and subtraction problems using data from simple tables, picture graphs, bar graphs, and practical situations			

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆Computation & Estimation		◆ Computation & Estimation		◆ Computation & Estimation		◆ Computation & Estimation	
Addition & Subtraction					**2.10** The student, given a simple addition or subtraction fact, will recognize and describe the related facts which represent and describe the inverse relationship between addition and subtraction (e.g., 3 + __ = 7, ___ + 3 = 7, 7 - 3 = __, and 7 - __ = 3).			
Multiplication & Division							**3.9** The student will recall the multiplication and division facts through the nines table.	
							3.10 The student will represent multiplication and division, using area and set models, and create and solve problems that involve multiplication of two whole numbers, one factor 99 or less and the second factor 5 or less.	
Estimating/ Magnitude			**1.7** The student, given a familiar problem situation involving magnitude, will a) select a reasonable magnitude from three given quantities: a one-digit numeral, a two-digit numeral, and a three-digit numeral (e.g., 5, 50, and 500); and b) explain the reasonableness of his/her choice.					

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆Measurement		◆Measurement		◆Measurement		◆Measurement	
Money	**K.7** The student will recognize a penny, nickel, dime, and quarter and will determine the value of a collection of pennies and/or nickels whose total value is 10 cents or less.		**1.10** The student will a) identify the number of pennies equivalent to a nickel, a dime, and a quarter; and b) determine the value of a collection of pennies, nickels, and dimes whose total value is 100 cents or less.		**2.11** The student will a) count and compare a collection of pennies, nickels, dimes, and quarters whose total value is $2.00 or less; and b) identify the correct usage of the cent symbol (¢), dollar symbol ($), and decimal point (.).		**3.13** The student will determine by counting the value of a collection of bills and coins whose total value is $5.00 or less, compare the value of the coins or bills, and make change.	
Time	**K.8** The student will identify the instruments used to measure time (clock: digital and analog; calendar: day, month, and season)..		**1.11** The student will tell time to the half-hour, using an analog or digital clock.		**2.16** The student will tell and write time to the quarter hour, using analog and digital clocks.		**3.15** The student will tell time to the nearest five-minute interval and to the nearest minute, using analog and digital clocks.	

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆Measurement		◆Measurement		◆Measurement		◆Measurement	
	K.9 The student will tell time to the hour, using an analog or digital clock				**2.18** The student will a) use calendar language appropriately (e.g., months, *today, yesterday, next week, last week*); b) determine past and future days of the week; and c) identify specific dates on a given calendar.		**3.16** The student will identify equivalent periods of time, including relationships among days, months, and years, as well as minutes and hours.	

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆**Measurement**		◆**Measurement**		◆**Measurement**		◆**Measurement**	
Temp	**K.8** The student will identify the instruments used to measure temperature (thermometer).				**2.19** The student will read the temperature on a Celsius and/or Fahrenheit thermometer to the nearest 10 degrees.		**3.17** The student will read temperature, to the nearest degree, from a Celsius thermometer and a Fahrenheit thermometer. Real thermometers and physical models of thermometers will be used.	
	K.10 The student will compare two objects or events, using direct comparisons or nonstandard units of measure, according to one or more of the following attributes: length (shorter, longer), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder). Examples of nonstandard units include foot length, hand span, new pencil, paper clip, block.							
Perimeter / Area					**2.12** The student will estimate and then use a ruler to make linear measurements to the nearest centimeter and inch, including measuring the distance around a polygon in order to determine perimeter.			
					2.13 The student, given grid paper, will estimate and then count the number of square units needed to cover a given surface in order to determine area.			

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	◆**Measurement**		◆**Measurement**		◆**Measurement**		◆**Measurement**	
Length	**K.8** The student will identify the instruments used to measure length (ruler).		**1.12** The student will use nonstandard units to measure length.		**2.12** The student will estimate and then use a ruler to make linear measurements to the nearest centimeter and inch, including measuring the distance around a polygon in order to determine perimeter.		**3.14** The student will estimate and then use actual measuring devices with metric and U.S. Customary units to measure a) length - inches, feet, yards, centimeters, and meters;	
	K.10 The student will compare two objects or events, using direct comparisons or nonstandard units of measure, according to one or more of the following attributes: length (shorter, longer), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder). Examples of nonstandard units include foot length, hand span, new pencil, paper clip, block.							

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆Measurement		◆Measurement		◆Measurement		◆Measurement	
Weight	**K.8** The student will identify the instruments used to measure weight (scale).		**1.12** The student will use nonstandard units to measure weight.		**2.15** The student will estimate and then determine weight/mass of familiar objects in pounds and/or kilograms, using a scale.		**3.14** The student will estimate and then use actual measuring devices with metric and U.S. Customary units to measure c) weight/mass - ounces, pounds, grams, and kilograms.	
	K.10 The student will compare two objects or events, using direct comparisons or nonstandard units of measure, according to one or more of the following attributes: length (shorter, longer), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder). Examples of nonstandard units include foot length, hand span, new pencil, paper clip, block .		**1.14** The student will compare the weight of two objects, using a balance scale.					

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆Measurement		◆Measurement		◆Measurement		◆Measurement	
Volume			**1.13** The student will compare the volumes of two given containers by using concrete materials (e.g., jelly beans, sand, water, and rice).		**2.14** The student will estimate and then count the number of cubes in a rectangular box in order to determine volume. **2.17** The student will use actual measuring devices to compare metric and U. S. Customary units (cups, pints, quarts, gallons, and liters) for measuring liquid volume, using the concepts of *more, less,* and *equivalent*.		**3.14** The student will estimate and then use actual measuring devices with metric and U.S. Customary units to measure b) liquid volume - cups, pints, quarts, gallons, and liters;	

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆**Geometry**		◆**Geometry**		◆**Geometry**		◆**Geometry**	
Properties of Plane & Solid Geometric Shapes	**K.11** The student will identify, describe, and draw two-dimensional (plane) geometric figures (circle, triangle, square, and rectangle).		**1.15** The student will describe the proximity of objects in space (*near, far, close by, below, above, up, down, beside*, and *next to*).		**2.20** The student will identify, describe, and sort three-dimensional (solid) concrete figures, including a cube, rectangular solid (prism), square pyramid, sphere, cylinder, and cone, according to the number and shape of the solid's faces, edges, and corners.		**3.18** The student will analyze two-dimensional (plane) and three-dimensional (solid) geometric figures (circle, square, rectangle, triangle, cube, rectangular solid [prism], square pyramid, sphere, cone and cylinder) and identify relevant properties, including the number of corners, square corners, edges, and the number and shape of faces, using concrete models.	
	K.12 The student will describe the location of one object relative to another (above, below, next to) and identify representations of plane geometric figures (circle, triangle, square, and rectangle) regardless of their position and orientation in space.		**1.16** The student will draw, describe, and sort plane geometric figures (triangle, square, rectangle, and circle) according to number of sides, corners, and square corners.		**2.21** The student will identify and create figures, symmetric along a line, using various concrete materials.		**3.19** The student will identify and draw representations of line segments and angles, using a ruler or straightedge.	
	K.13 The student will compare the size (larger,smaller) and shape of plane geometric figures (circle, triangle, square, and rectangle).		**1.17** The student will identify and describe objects in his/her environment that depict plane geometric figures: triangle, rectangle, square, and circle.		**2.22** The student will compare and contrast plane and solid geometric shapes (circle/sphere, square/cube, and rectangle/rectangular solid).		**3.20** The student, given appropriate drawings or models, will identify and describe congruent and symmetrical two-dimensional (plane) figures, using tracing procedures.	

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆Probability & Statistics		◆Probability & Statistics		◆Probability & Statistics		◆Probability & Statistics	
Statistics	**K.14** The student will gather data relating to familiar experiences by counting and tallying. .		**1.18** The student will investigate, identify, and describe various forms of data collection in his/her world (e.g., recording daily temperature, lunch count, attendance, and favorite ice cream), using tables, picture graphs, and object graphs.		**2.23** The student will read, construct, and interpret a simple picture and bar graph.		**3.21** The student, given grid paper, will a) collect and organize data on a given topic of his/her choice, using observations, measurements, surveys, or experiments; and b) construct a line plot, a picture graph, or a bar graph to represent the results. Each graph will include an appropriate title and key.	
	K.15 The student will display objects and information, using object graphs, pictorial graphs and tables.							
			1.19 The student will interpret information displayed in a picture or object graph, using the vocabulary: *more, less, fewer, greater than, less than*, and *equal to.*					
							3.22 The student will read and interpret data represented in line plots, bar graphs, and picture graphs and write a sentence analyzing the data.	
Probability	**K.16** The student will investigate and describe the results of dropping a two-colored counter or using a multicolored spinner.				**2.24** The student will record data from experiments using spinners and colored tiles/cubes and use the data to predict which of two events is more likely to occur if the experiment is repeated.		**3.23** The student will investigate and describe the concept of probability as chance and list possible results of a given situation.	

Big Idea	Grade K	Score	Grade 1	Score	Grade 2	Score	Grade 3	Score
	◆Patterns, Functions & Algebra		◆ Patterns, Functions & Algebra		◆ Patterns, Functions & Algebra		◆ Patterns, Functions & Algebra	
Classification	**K.17** The student will sort and classify objects according to similar attributes (size, shape, and color).		**1.20** The student will sort and classify concrete objects according to one or more attributes, including color, size, shape, and thickness.					
Patterns / Functions	**K.18** The student will identify, describe, and extend a repeating relationship (pattern) found in common objects, sounds, and movements.		**1.21** The student will recognize, describe, extend, and create a wide variety of patterns, including rhythmic, color, shape, and numerical. Patterns will include both growing and repeating patterns. Concrete materials and calculators will be used by students.		**2.25** The student will identify, create, and extend a wide variety of patterns, using numbers, concrete objects, and pictures. **2.26** The student will solve problems by completing a numerical sentence involving the basic facts for addition and subtraction. Examples include: 3 + __ = 7, or 9 - __ = 2. Students will create story problems using the numerical sentences.		**3.24** The student will recognize and describe a variety of patterns formed using concrete objects, numbers, tables, and pictures and extend the pattern, using the same or different forms (concrete objects, numbers, tables, and pictures). **3.25** The student will a) investigate and create patterns involving numbers, operations (addition and multiplication), and relations that model the identity and commutative properties for addition and multiplication; and b) demonstrate an understanding of equality by recognizing that the equal sign (=) links equivalent quantities, such as 4 x 3 = 2 x 6.	